

**IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF NORTH CAROLINA
ASHEVILLE DIVISION**

CIVIL CASE NO. 1:10-cv-00159-MR

SOCIEDAD ESPANOLA de ELECTROMEDICINA)	
Y CALIDAD, S.A.,)	
)	
Plaintiff,)	
)	
vs.)	
)	
)	
BLUE RIDGE X-RAY COMPANY, INC.,)	
DRGEM USA, INC. and DRGEM CORPORATION,)	
)	
Defendants.)	
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CLAIM CONSTRUCTION ORDER

THIS MATTER is before the Court on the Parties' Claim Construction Briefs.

I. FACTUAL AND PROCEDURAL BACKGROUND

This is an action for patent infringement brought by Sociedad Espanola de Electromedicina Y Calidad, S.A. (Sedecal) against Blue Ridge

X-Ray Company, Inc. (Blue Ridge X-Ray), Drgem USA, Inc. (Drgem USA), and Drgem Corporation (Drgem Corp.).¹ [Doc. 1].

Sedecal is a Spanish corporation, which designs and sells X-ray and digital radiography equipment for use in the medical industry. [Doc. 49 at 3]. The First Amended Complaint alleges one claim for patent infringement based on Patent No. 6,642,829 (the '829 Patent), a patent for a high voltage transformer owned by Sedecal by assignment from the inventor, a Sedecal employee. [Doc. 21 at 4].

Drgem USA is a Florida corporation and a subsidiary of its parent company Drgem Corp., a South Korean corporation. [Id. at 2]. Drgem Corp. is alleged to have infringed the '829 Patent by manufacturing, selling and exporting for sale X-ray generator products which infringe one or more claims of the '829 Patent. [Id.]. Drgem USA is alleged to have infringed the patent by selling these allegedly infringing Drgem products to Blue Ridge X-Ray. [Id. at 4-5].

Blue Ridge X-Ray is a North Carolina corporation doing business in Arden which sells X-ray and digital radiography equipment, including

¹This action was originally brought by two plaintiffs, Sedecal and Sedecal USA, Inc. (Sedecal USA). [Doc. 1]. By First Amended Complaint filed on November 1, 2010, Sedecal, USA was deleted as a plaintiff.

Sedecal and Drgem products. [Id.]. Blue Ridge X-Ray is alleged to have infringed the '829 Patent by selling and importing for sale the allegedly infringing Drgem products. [Id. at 4].

For relief, Sedecal seeks a declaration of infringement, injunctive relief against further infringement, and damages. [Id. at 6-7]. Sedecal's sole claim is pursuant to the Patent Act, 35 U.S.C. §§ 1, *et. seq.* [Id.]. There are no state law claims or licensing issues. [Id.].

In their Answer and Counterclaims, the Defendants have raised the affirmative defenses of patent invalidity and failure to mark the products with the patent, thus depriving the Plaintiff of any right to damages pursuant to 35 U.S.C. § 287. [Doc. 27]. They also counterclaimed for a declaration of non-infringement and invalidity. [Id.].

The parties complied with all stages of the Amended Utility Patent Claim Construction Scheduling Order. [Doc. 37]. A hearing was conducted at the request of the parties and the matter is now ripe for claim construction.

II. THE PATENT

The '829 Patent relates to a high-voltage transformer for use in the medical industry to generate X-ray images. [Doc. 46 at 7]. Specifically, the '829 Patent discloses an invention which reduces the size and cost of

typical medical transformers by arranging the components of the transformer in two differentiated groups. [Id. at 9].

III. THE PRINCIPLES OF CLAIM CONSTRUCTION

The first step in making a determination of patent infringement is a construction of the claims of the patent in order to determine the scope of each claim. Bell Atlantic Network Services, Inc. v. Covad Communications Group, Inc., 262 F.3d 1258, 1267 (Fed. Cir. 2001). This determination, called claim construction, is a question of law for the Court. Id.; Markman v. Westview Instruments, Inc., 52 F.3d 967, 970-71 (Fed. Cir.), aff'd, 517 U.S. 370, 116 S.Ct. 1384, 134 L.Ed.2d 577 (1996). Claim construction involves determining what the language of the claims mean. Id. Only when the claim is properly understood can a determination be made as to whether it reads on an accused device or is invalid. Id.

As the Federal Circuit has explained, “[t]here is a heavy presumption that the terms used in claims mean what they say and have the ordinary meaning that would be attributed to those words by persons skilled in the relevant art.” SuperGuide Corp. v. DirectTV Enters., Inc., 358 F.3d 870, 874-75 (Fed. Cir. 2004) (internal quotation marks and citations omitted). A person skilled in the art will read the claim terms in the context of not only the claims in dispute but also in the context of the entire patent, including

the specification and prosecution history. Phillips v. AWH Corp., 415 F.3d 1303, 1313 (Fed. Cir.), cert. denied, 546 U.S. 1170, 126 S.Ct. 1332, 164 L.Ed.2d 49 (2006). Specifically, “claim terms take on their ordinary and accustomed meanings unless the patentee demonstrated an intent to deviate from the ordinary and accustomed meaning of a claim term by redefining the term or by characterizing the invention in the intrinsic record using words or expressions of manifest exclusion or restriction, representing a clear disavowal of claim scope.” Super Guide, 358 F.3d at 875 (citation omitted). “The written description, however, is not a substitute for, nor can it be used to rewrite, the chosen claim language. Specifications teach. Claims claim. Though understanding the claim language may be aided by the explanations contained in the written description, it is important not to import into a claim limitations that are not a part of the claim.” Id. (internal quotation marks and citations omitted).

“In construing claims, the analytical focus must begin and remain centered on the language of the claims themselves, for it is that language that the patentee chose to use to particularly point[] out and distinctly claim[] the subject matter which the patentee regards as his invention.” Interactive Gift Express, Inc. v. CompuServe Inc., 256 F.3d 1323, 1331 (Fed. Cir. 2001) (internal quotation and citation omitted). “It is well-settled

that, in interpreting an asserted claim, the court should look first to the intrinsic evidence of record, *i.e.*, the patent itself, including the claims, the specification and, if in evidence, the prosecution history.” Vitronics Corporation v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed. Cir. 1996). The prosecution history includes evidence of how the Patent and Trademark Office (PTO) and the inventor understood the patent and may also show whether the inventor disclaimed any particular interpretation during the prosecution process. Phillips, 415 F.3d at 1317; Chimie v. PPG Indus., Inc., 402 F.3d 1371, 1384 (Fed.Cir. 2005). “Such intrinsic evidence is the most significant source of the legally operative meaning of disputed claim language.” Vitronics, 90 F.3d at 1582.

“The role of the specification includes presenting a description of the technologic subject matter of the invention, while the role of claims is to point out with particularity the subject matter that is patented.” Netword, L.L.C. v. Centraal Corportion, 242 F.3d 1347, 1352 (Fed. Cir. 2001). “The construction that stays true to the claim language and [that] most naturally aligns with the patent’s description of the invention will be, in the end, the correct construction.” Renishaw P.L.C. v. Marposs Societa’ per Axioni, 158 F.3d 1243, 1250 (Fed. Cir. 1998).

Where the claim language and specification provide an unambiguous construction, it is unnecessary to consult the prosecution history. Interactive Gift, 256 F.3d at 1334. Otherwise, the prosecution history should be consulted to ascertain if the inventor made any express representations in obtaining the patent regarding its scope and the meaning of the claims. Bell Atlantic, 262 F.3d at 1269. Only as a last resort should extrinsic evidence, such as expert witness testimony or learned treatises, be consulted. “In those cases where the public record unambiguously describes the scope of the patented invention, reliance on any extrinsic evidence is improper.” Vitronics, 90 F.3d at 1583.

IV. DISCUSSION

A. Claim 1

Claim 1 of the ‘829 Patent is an independent claim. Each of the other six claims is dependent on Claim 1. See 35 U.S.C. § 112 (“a claim in dependent form shall contain a reference to a claim previously set forth and then specify a further limitation of the subject matter claimed”). Claim 1 reads as follows:

What is claimed is:

1. A high voltage transformer having a plurality of elements for voltage transformers, said elements comprising:

a high voltage transforming means,

a rectifier,

a filter,

a resistive divider,

a high voltage switch,

a magnetic core,

a low voltage input,

wherein each rectifier, filter, resistive divider, high voltage switch, magnetic core, has a first end and a second end,

each first end being connected to zero voltage level,

each second end being opposite to each first end; said rectifiers, filters, resistive dividers, high voltage switches, magnetic cores, are arranged in two differentiated groups,

a first group comprising positive voltage elements and

a second group comprising negative voltage elements; the positive voltage elements are separated from the negative voltage elements **by solid insulating means in two insulated chambers;**

voltage towards the second end in each of said elements: progressively increases in the positive voltage elements and;

progressively decreases in the negative voltage elements; so that, at an equal distance from zero voltage level, the elements of each group have equipotential voltages.

[Doc. 21-1, col.4 ll. 40-67; col.5 ll. 1-4] (emphasis added).

The parties agree that the term “a high voltage switch” means “a high voltage connector receptacle such as an anode or cathode connector receptacle.” [Doc. 45 at 2]. They also agree that the term “each first end being connected to zero voltage level” means “each first end of the rectifier, filter, resistive divider, high voltage switch, and magnetic core are electrically connected to the zero voltage level.” [Id.]. In light of the parties’ agreement regarding these terms, the Court will adopt their proposed construction of these terms.

The other bolded terms, however, remain in dispute. Sedecal argues that the entire clause “the positive voltage elements are separated from the negative voltage elements by solid insulating means in two insulated chambers” is that which must be construed, and it would define the phrase as: “the first group of positive elements is electrically separated from the second group of negative voltage elements by a solid non-conductive

insulating body into two electrically insulated compartments.” [Doc. 46 at 12-13].

Sedecal has not explained why this clause should be construed as a whole, although it is noted that such a construction would support their theory (discussed *infra*) that this is not a means-plus-function claim. Moreover, Sedecal has not cited any law which would support construing the entire phrase as opposed to the specific terms therein. Indeed, at the hearing, Sedecal conceded that construction of this clause, either as a whole or broken down into two separate phrases, would be legally correct.

The Defendants argue that there are two terms within this phrase which must be construed: “solid insulating means” and “two insulating chambers.” Because the patentee used the term “means,” they argue this is a means-plus-function claim, with the function claimed by the patent being “insulating and separating the positive voltage elements from the negative voltage elements”² and the corresponding structure as one solid insulating barrier, which the Defendants contend is not identified in the patent.

²Actually, the Defendants’ proposed construction accords with Sedecal’s argument that the positive and negative voltage elements are “separated.”

The Defendants would also have the Court separately construe the term “two insulated chambers” as meaning two different chambers that are isolated and insulated from each other. [Doc. 46 at 13].

The parties do not dispute the meaning of any other terms in Claim 1.

1. Whether the phrase “solid insulating means” in Claim 1 is a means-plus-function claim.

There must first be a determination of whether the claim is stated in a means-plus-function format. Biomedino, LLC v. Waters Technologies Corp., 490 F.3d 946 (Fed.Cir. 2007), cert. denied, 552 U.S. 1039, 128 S.Ct. 653, 169 L.Ed.2d 510 (2007). If it is, the Court must identify the function claimed and then identify the corresponding structure in the description of the patent. Id.

Paragraph 6 of § 112 provides that an element in a claim may be expressed as a means or step for performing a specified function without reciting the structure itself. “When a claim uses the term ‘means’ to describe a limitation, a presumption inheres that the inventor used the term to invoke §112, ¶6.” Id. at 950. “This presumption can be rebutted when the claim, in addition to the functional language, recites structure sufficient to perform the claimed function in its entirety.” Id.; Envirco Corp. v. Clestra Cleanroom, Inc., 209 F.3d 1360, 1364-65 (Fed. Cir. 2000). Where the

presumption is not rebutted and if there is no structure in the specification corresponding to the means-plus-function limitation, the claim will be found invalid. Biomedino, 490 F.3d at 950.

On the other hand, even if the presumption is not rebutted, “the patentee is allowed to claim a limitation in broad functional language, provided that the specification indicates what structure constitutes the means for performing the claimed function.” Dealertrack, Inc. v. Huber, 674 F.3d 1315, 1328-29 (Fed.Cir. 2012) (internal quotation and citation omitted). “[T]his is not a high bar: all one needs to do in order to obtain the benefit of [the statute] is to recite some structure corresponding to the means in the specification ... so that one can readily ascertain what the claim means and comply with the particularity requirement of [the statute].” Biomedino, 490 F.3d at 950. The “specification must contain sufficient descriptive text by which a person of skill in the field of the invention would know and understand what structure corresponds to the means limitation.” Typhoon Touch Technologies, Inc. v. Dell, Inc., 659 F.3d 1376, 1384 (Fed.Cir. 2011).

The Defendants argue that this is a means-plus-function claim in which the presumption has not been rebutted. Specifically, they contend that the use of the word “solid” in the term “one solid insulating means” is

merely an adjective which does not identify a structure and that the word “insulating” refers only to the function, not a structure. The claim, they argue, does not specify the exact structure that performs the function at issue and thus the disputed claim term must be interpreted as a means-plus-function limitation.

Sedecal counters that the claim itself recites the function of insulating but also specifies a structure within the claim to perform that function, thus removing the claim from the means-plus-function format. Sedecal argues that the noun “solid” is the structure recited in the claim. According to Sedecal,

the words “solid insulating means” identifies the structure of a solid material which is sufficient structure for insulating. In other words, because a solid material by itself is sufficient structure for performing an insulating function, the term “solid” on its own rebuts any presumption that §112, ¶6 applies to this limitation.

[Doc. 46 at 17].

Contrary to Sedecal’s argument, the word “solid” is used as an adjective which describes the function, and is not used as a noun identifying a structure. See Biomedino, 490 F.3d at 950 (in the phrase “control means,” the word “control” is an adjective not a noun capable of performing the identified function); Elbex Video, Ltd. v. Sensormatic

Electronics Corp., 508 F.3d 1366, 1370 (Fed.Cir. 2007) (receiving means is a means-plus-function claim); Envirco, 209 F.3d at 1365 (second baffle means outside scope of statute because second is an adjective but baffle is the structure); LSI Industries, Inc. v. ImagePoint, Inc., 279 Fed. App'x. 964 (Fed.Cir. 2008) (channel means referred to the structure of a channel). In this case, there is “no recourse but to turn to the ['829 Patent's] specification to derive a structural connotation for the generically claimed” solid insulating means. Welker Bearing Co. v. PHD, Inc., 550 F.3d 1090, 1096 (Fed.Cir. 2008). Moreover, Sedecal did not argue that the word “solid” would call to mind a single well-defined structure to one who is skilled in the art. See Apex, Inc. v. Raritan Computer, Inc., 325 F.3d 1364, 1372 (Fed.Cir. 2003), cert. denied 540 U.S. 1073, 124 S.Ct. 922, 157 L.Ed.2d 742 (2003); Hubbell, Inc. v. Pass & Seymour, Inc., 781 F.Supp.2d 67 (D.Conn.), appeal dismissed 459 Fed. App'x. 901 (Fed. Cir. 2011). In fact, its argument would be stronger if the phrase were “solid means” rather than “solid insulating means.”

Sedecal also argues, however, that the words “solid insulating means” sufficiently identifies the structure described in the specification and

drawings.³ The specification describes the invention as unique because the elements of the transformers are arranged in “two differentiated groups, on the one hand the elements having positive voltage[s] and, on the other, the elements having negative voltages, both groups being separated by insulating means.” [Doc. 21-1 at Col.2 ll.21-24]. The claim itself, however, does not articulate the structure to accomplish the function of insulating and because of that, Sedecal’s argument fails. TriMed, Inc. v. Stryker Corp., 514 F.3d 1256, 1260 (Fed. Cir. 2008), cert. denied, 555 U.S. 824, 129 S.Ct. 144, 172 L.Ed.2d 39 (2008). “Sufficient structure exists when the claim language specifies the exact structure that performs the functions in question without need to resort to other portions of the specification or extrinsic evidence for an adequate understanding of the structure.”⁴ Id.

³Sedecal also argues that the Background of the Patent has three examples of means to provide electrical insulation: using a liquid or gaseous fluid; using solid insulating parts and vacuum encapsulating the entire transformer. [Doc. 46 at 17]. The Patent, however, lists these three conventional means of insulating transformers as burdensome because they require the transformer to be large. [Doc. 21-1 at Col.3 ll. 20-40]. The whole purpose of the patent was to reduce the size of the transformers through the arrangement of the voltage elements and use of a “solid insulating means.”

⁴In fact, every case cited by Sedecal contains this same distinction. Rodime PLC v. Seagate Tech., Inc., 174 F.3d 1294, 1302 (Fed. Cir.), cert. denied, 528 U.S. 1115, 120 S.Ct. 933, 145 L.Ed.2d 812 (2000) (the claim specified the structure); Cole v. Kimberly-Clark, 102 F.3d 524 (Fed. Cir.), cert. denied, 522 U.S. 812, 118 S.Ct. 56, 139 L.Ed.2d 20 (1997) (same).

Sedecal, therefore, has failed to rebut the presumption that this is a means-plus-function claim and the claim must be construed in that manner.

2. Construing a means-plus-function claim.

Having construed the claim limitation as a means-plus-function limitation, the Court must now (1) identify the function and (2) determine whether the specification identifies the corresponding structure for that function. Biomedino, 490 F.3d at 950. If there is no corresponding structure, then the claim is invalid as indefinite and, in this case, the entire patent would fail since all the other claims depend on Claim 1. The parties do not dispute that the function is insulating and separating the positive voltage elements from the negative voltage elements. At issue is the structure that is indicated to accomplish this function.

In the Description of the Invention, the invention's value is stated in terms of the distance between the two groups of positive versus negative voltages:

Thus, by means of the invention, as the elements are designed such that their voltage levels are in accordance with the area of potential which they occupy, it is possible to bring the elements nearer to each other, so that the volume is considerably reduced and, thus, the insulator filling the inside of

the housing or tank of the transformer, is considerably reduced.⁵ As a consequence of this reduction of the volume, a considerable reduction of the weight is achieved, due to the fact that the tank is of smaller dimensions and a smaller quantity of filling insulator is required.

...

The insulating means separating the two groups of elements, are established by one single solid insulating means, a fact which considerably simplifies the assembly of the various elements of the transformer at the same time as it reduces its cost.

[Doc. 21-1,col. 2 ll. 42-52; col. 3 ll. 1-5].

In the Description of the Preferred Embodiment of the Invention, there is first a description of the two separate groups of positive and negative voltages. Then, the following description is made of the insulating means:

Between both groups, there is arranged a solid insulating means (6) furnishing correct insulation between the two groups, whereas insulation between the various elements of each group is achieved by means of a fixing to "zero voltage" or ground level on the upperside, which is progressively increased towards the lower end in the elements with positive voltage and which progressively decreases in the elements with negative voltages, in such a way that at one same

⁵This obviously refers to an insulator filling that serves a purpose different from the insulating function which is to be construed. Even in the preferred embodiment of the invention, there must be insulating oil inside the tank or housing of the transformer. [Doc. 21-1 at Col. 4 ll. 27-30]. Since the intended transformer is designed to be substantially smaller, considerably less of that insulating liquid would be required. Id.

distance from ground level, the elements of each group have equal voltages[.]

[Doc. 21-1, col. 3 ll. 59-61; col. 4 ll. 27-39].

In construing a means-plus-function claim, “the specification must contain sufficient descriptive text by which a person of skill in the field of the invention would ‘know and understand what structure corresponds to the means limitation.’” Typhoon Touch, 659 F.3d at 1383-84 (quoting Finisar Corp. v. DirectTV Group, Inc., 523 F.3d 1323, 1340 (Fed.Cir.), cert. denied 555 U.S. 1070, 129 S.Ct. 754, 172 L.Ed.2d 727 (2008)); DealerTrack, supra.; Telcordia Technologies, Inc. v. Cisco Systems, Inc., 612 F.3d 1365 (Fed.Cir. 2010). At the hearing on this matter, Sedecal presented the testimony of Oscar Khutoryansky who was allowed to testify as an expert for purposes of the Markman hearing only. He testified that persons skilled in the art would understand the claim “solid insulating means” as two electrically insulated chambers which are not physically isolated.⁶ [Doc. 46-2 at 4]. Sedecal, therefore, claims the entire clause must be construed as: “the first group of positive elements is electrically separated from the second group of negative voltage elements by a solid non-conductive

⁶ The Court, however, considers this testimony only as to what a person skilled in the art would understand and thus does not consider extrinsic evidence.

insulating body into two electrically insulated compartments.” The Defendants argue, on the other hand, that the proper construction for “solid insulating means” is “one solid insulating barrier as described and depicted in the ‘829 patent.”

Clearly, the function is to separate the elements and to insulate them. The word “solid” is used as an adjective, not a noun. Therefore, the Court construes the claim “solid insulating means” to mean an insulating barrier of solid material.

3. Construing the equivalents of means-plus-function claim.

Paragraph 6 of § 112 states that a claim phrased as a means-plus-function claim must be construed to cover the corresponding structure described in the specification “and equivalents thereof.” This means that the claim must be construed to cover at least the structural embodiment in the specification that corresponds to the function recited in the claim, as well as other structures that are equivalent to that disclosed embodiment.

1 Moy’s Walker on Patents §4:92 (4th ed. 2011).

The parties dispute what such equivalents may be.⁷ The Defendants argue, as discussed below, that the inventor disclaimed the full range of equivalents in the patent prosecution, especially an interpretation of the phrase that would allow for a gap between the top of the insulating means and the cover of the transformer.

Although this is discussed in greater detail below, “positions taken before the PTO may bar an inconsistent position on claim construction under §112, ¶6.” Cybor Corp. v. FAS Techs., Inc., 138 F.3d 1448, 1457 (Fed.Cir. 1998). “Statements detailing the shortcomings of the relevant prior art have often proved useful in construing means-plus-function claims.” Ballard Medical Products v. Allegiance Healthcare Corp., 268 F.3d 1352, 1359 (Fed.Cir. 2001).

4. “Two Insulated Chambers”

As previously noted, Sedecal argues that the term “two insulated chambers” must be construed together to mean that “the first group of positive voltage elements is electrically separated from the second group of negative voltage elements by a solid non-conductive insulating body in two

⁷Sedecal at one point took the position that the disavowal of claims scope during the prosecution history does not apply to means-plus-function claims. That position, however, is wrong and Sedecal appears to have abandoned it. Cybor, 138 F.3d at 1457; Ballard, 268 F.3d at 1457.

electrically insulated compartments.” Sedecal would thus construe the term “chambers” to mean “compartments.”

Citing the prosecution history, the Defendants argue there must be a separate construction of the phrase “two insulating chambers” as meaning two different chambers that are isolated and insulated from each other. They would thus add the word “isolated” to the construction.

Sedecal argues that a person skilled in the art would understand that “two insulated chambers” to mean electrically insulated; that is, two electrically insulated compartments or chambers. Isolation of the two chambers from each other is not possible, it argues, because otherwise insulating fluid cannot flow between the chambers. There is, however, nothing in the specification which calls for such a flow between chambers.

A claim term is generally given its “ordinary and customary meaning,” which is “the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention.” Schindler Elevator Corp. v. Otis Elevator Co., 593 F.3d 1275, 1282 (Fed. Cir. 2010) (quoting Phillips, 415 F.3d at 1313-14). “[T]he court looks to ‘those sources available to the public that show what a person of skill in the art would have understood disputed claim language to mean,’ ... includ[ing] ‘the words of the claims themselves, the remainder of the specification, the prosecution history, and

extrinsic evidence concerning relevant scientific principles, the meaning of technical terms and the state of the art.” Id. Here the language of the claim itself clearly envisions two groups of elements, one with negative voltage and the other with positive voltage. It also clearly states that the two groups are separated in two insulated chambers. Since the patent deals with voltage, Sedecal’s argument that the phrase should be construed as electrically insulated chambers has a common sense appeal.

The Defendants claim that these chambers must be enclosed and isolated from each other, that is, physically separated. They base this, in part, on their assertion that Sedecal’s current interpretation was disavowed during the patent prosecution.

As the Federal Circuit has explained:

The prosecution history can often inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be.

...
[A patentee] is not entitled to any interpretation that it disclaimed during prosecution. ... The doctrine of prosecution disclaimer attaches where an applicant, whether by amendment or by argument, “unequivocally disavowed a certain meaning to obtain his patent.” For example, an amendment that clearly narrows the scope of a claim, such as by the addition of a new claim limitation, constitutes

a disclaimer of any claim interpretation that would effectively eliminate the limitation or that would otherwise recapture the claim's original scope.

...

An argument made to an examiner constitutes a disclaimer only if it is "clear and unmistakable." An ambiguous disavowal will not suffice.

Id. at 1284-85 (citations omitted).

As previously noted, such a disclaimer also applies to the positions taken by an inventor before the PTO that a particular structure is not within his invention when a means-plus-function claim is to be construed and the doctrine of equivalents is involved. Omega Engineering, Inc. v. Raytek Corp., 334 F.3d 1314, 1325 (Fed. Cir. 2003).

The relevant portion of Claim 1 which was originally submitted to the PTO was the following: "the elements with positive voltages (1-5 and 7) are separated from the elements with negative voltages (1'-5' and 7') by solid insulating means[.]" [Doc. 49-3]. The inventor then made a preliminary amendment to the claim which was submitted to the PTO but he did not amend that phrase. [Doc. 49-4]. The PTO rejected the claim as anticipated by US Patent 4,587,606 issued to Sanada (the Sanada Patent). [Doc. 49-5]. In the Sanada Patent, the "two groups are separated from each other by insulating means, namely the insulation oil[.]" [Id. at 3].

Because of the rejection, the inventor canceled the original Claim 1 and resubmitted it to the PTO. The new claim added the words “in two insulated chambers.” [Doc. 49-6 at 3]. The inventor made the following arguments to the PTO to distinguish his invention from the Sanada Patent:

Sanada ... describes a transformer wherein there are a plurality of positive and negative voltage windings, but in the arrangement of the windings in the Sanada transformer ... there is neither a discussion nor an illustration in any figure or the reference, of any insulating means to insulate the positive voltage windings from the negative voltage windings. ... [I]t is never stated or shown [in the Sanada Patent] that this insulating means constitutes the insulating means between the positive and negative voltage windings. This is noteworthy, as in the Sanada device, the positive and negative windings follow one after the other, whereas in the transformer of the present application, the positive and negative windings are located in **two different** and **insulated** chambers,⁸ with the positive voltage windings arranged in one column and the negative voltage windings arranged in a different column, and the chambers themselves being insulated by solid insulating means.

Another advantage of the present invention over the invention described in Sanada is the fact that the point where all elements are connected ... is easily accessible in the present application as it is clearly

⁸This language alone would seem to defeat Sedecal’s argument that the phrase should be construed to mean electrically insulated as opposed to physically separate.

and unambiguously shown in the figures. This is considered to be a particular advantage of the arrangement of the positive and negative voltage windings in the transformer of the instant invention, in two **different** and **isolated** chambers.

[Doc. 49-6 at 6] (emphasis in original). The PTO allowed this new claim and included in the patent is Figure 3 which certainly appears to have two different and separate chambers which are both insulated and isolated from each other. [Doc. 21-1 at 4].

Sedecal disputes this construction by citing Figure 1 in the patent which “shows a schematic top plan view of a possible embodiment of the transformer of the invention. In this figure the upper surface or cover of the housing or tank of the transformer has been removed.” [Doc. 21-1 at 6]. Sedecal argues that Figure 1 shows a magnetic core (7) running across the top of the two chambers and passing over the solid insulating means (6). This, it argues, provides a gap between the insulating means and the cover of the transformer which therefore means that the two chambers are not isolated. Sedecal also cites the expert testimony of Oscar Kutoryansky, who opined that the chambers are not “completely isolated.” According to Kutoryansky’s declaration,

[a] person of ordinary skill in the art would understand that the insulating means ... does not completely isolate the chambers because the

magnetic core ... will always be formed as a continuous loop in a high voltage transformer a portion of which is shown in figure 1. This closed loop structure is necessary because magnetic flux must have closed circuit continuity. Therefore, a person skilled in the art would know that the solid insulating means does not extend to the very top or bottom of the transformer housing ... and cannot completely isolate the chambers on the top and the bottom of the transformer. This also permits insulating oil to pass between the two chambers.⁹

[Doc. 46-2 at 4].

The Defendants aptly point out that this interpretation is directly contrary to Sedecal's desired construction of Claim 1: "the first group of positive elements is **electrically separated** from the second group of negative voltage elements by a solid non-conductive insulating body into two electrically insulated compartments." (emphasis added). If the magnetic core is a ring-like continuous loop traversing the solid insulating means, the two groups will be electrically connected rather than electrically separated.

The Defendants also correctly note that the inventor distinguished his invention from the Sanada Patent in his prosecution of the Patent by

⁹There is nothing in the patent specification or the claims which describes any such feature running between chambers. Instead, the patent specifies that the inside of the tank or housing contains insulating oil but there is no mention of oil transferring back and forth between the chambers.

arguing that the claim sets out “two different and insulated chambers” and “two different and isolated chambers.” [Doc. 49-6 at 6]. Offering a narrower construction of the claim during the prosecution of the patent in order to overcome prior art is an indication that the patentee “clearly and unmistakably disclaimed the territory between the full ordinary meaning of the claim language and the asserted new meaning.” Omega Engineering, 334 F.3d at 1327; Purdue Pharma L.P. v. Endo Pharmaceuticals, Inc., 438 F.3d 1123, 1136 (Fed.Cir. 2006). “[P]ositions taken before the PTO may bar an inconsistent position on claim construction[.]” Alpex Computer Corp. v. Nintendo Co., 102 F.3d 1214, 1221 (Fed.Cir. 1996), cert. denied, 521 U.S. 1104, 117 S.Ct. 2480, 138 L.Ed.2d 989 (1997); Thomas v. Motorola, Inc., No. 3:05cv493-RJC, 2008 WL 619195, at *1 n.5 (W.D.N.C. Feb. 28, 2008) (holding that claim construction could not broaden claim disavowed during prosecution where PTO rejected claim as unpatentable over two prior art references and inventor amended claims to narrow and distinguish the prior art).

The PTO rejected the phrase “solid insulating means” because the Sanada Patent used the words “insulating means.” The inventor then added “solid insulating means in two insulated chambers.” In explaining to the PTO that which distinguished his invention from Sanada, he explicitly

stated that his patent included “two different and insulated chambers” and “two different and *isolated* chambers.”¹⁰

Neither the drawings nor the specification depicts the design now urged by Sedecal. Although Sedecal argues that it is possible for the magnetic core to pass through each chamber, none of the drawings shows that. The drawings show the magnetic core as crossing the top of the insulating means (6) but not inside each chamber. It is also unclear whether each chamber is completely enclosed. Although Sedecal argues that insulating oil passes between the chambers, the specification does not indicate this in any way. The only reference in the specification is to the insulating oil used inside the tank, that is, the housing. [Doc. 21-1 col. 4 ll. 27-30]. “[P]atent drawings do not define the precise proportions of the elements.” Hockerson-Halberstadt, Inc. v. Avia Group Int’l, Inc., 222 F.3d 951, 956 (Fed. Cir. 2000). Thus, shapes in patent drawings may not provide a basis for expanding the plain meaning of claim terms. Id.; Nystrom v. TREX Co., Inc., 424 F.3d 1136 (Fed. Cir. 2005) (finding district

¹⁰Sedecal argues that this was not an unambiguous disclaimer because the inventor did not use the word “completely” to describe “isolated.” The absence of the word “completely,” however, cannot be reasonably interpreted to imply only a *partial* isolation. Either something is completely isolated or it is not; interpreting “isolated” to somehow indicate only a “partial” isolation is to give the word “isolation” other than its ordinary meaning.

court erred in relying on models made from drawings contained in patent); Benetton Sportssystem USA, Inc. v. First Team Sports, Inc., 38 F. App'x. 599 (Fed. Cir. 2002) (holding that patent drawings do not define elements and may not be relied on to limit claims to that specific configuration where specification is silent); Franklin Elec. Co., Inc. v. Dover Corp., No. 2006-1442, 2007 WL 634430 (Fed. Cir. Mar. 1, 2007) (patent drawings show preferred embodiment but could not be read into claim as limitation).

In summary, Sedecal has not provided any law in support of construing the entire element in Claim 1 as opposed to the disputed terms “by solid insulating means in two insulated chambers.” This is a means-plus-function claim. The function claimed by the patent “is insulating and separating the positive voltage elements from the negative voltage elements.” The advantage of the invention is the ability to separate negative and positive voltage elements in close proximity in order to reduce the size and weight of the transformer. All of the elements are enclosed in the housing of the preferred embodiment but the voltage groups are “separated” by an insulating barrier of solid material which separates and insulates two different chambers. The drawings within the patent show two different chambers that are insulated from each other separated by an insulating barrier of solid material.

The Court thus construes the term “two insulated chambers” claim as two different chambers that are insulated from each other.

B. Dependent Claim 6

The language in this dependent claim which is in dispute is the following:

A high voltage transformer according to claim 1, wherein the two groups are separated by **a single solid insulating means**.

[Doc. 21-1 at Col.6 ll.6-7].

The parties renew their arguments concerning whether this is a means-plus-function claim but, in the end, they agree that the claim refers to “one” solid insulating means. In addition, as the Defendants argue, the drawings show only one solid insulating means. The claim is nonetheless invalid, they argue, because it adds nothing to Claim 1. Sedecal argues that the term “a single solid insulating means” should be construed to mean one solid non-conductive insulator body.

Claim 1 does not necessarily dictate that the barrier be a unitary single item. Therefore, Claim 6 is not invalid on the ground that it adds nothing to Claim 1. The parties agree, however, that only one solid insulating barrier is involved in Claim 6. The Court therefore construes the phrase “a single solid insulating means” as one solid insulating barrier.

C. Dependent Claim 7

Claim 7 (with the disputed portions shown in bold) reads as follows:

A high voltage transformer according to claim 1, further comprising **means for minimizing stray capacitances¹¹ between the first group elements and the second group elements, by arranging said groups so that only a very small surface of the first group is opposed to the second group.**

[Doc. 21-1 at Col. 6 ll. 5-11] (emphasis provided).

Sedecal argues that this is not a means-plus-function claim for the same reasons as previously argued concerning Claim 1. Likewise, the Defendants argue it is such a claim. Sedecal also argues that no construction of the claim is necessary because the meaning of the words is obvious.

As previously noted, the use of the word “means” gives rise to a presumption that §112, ¶6 applies. The parties agree that the function is at least “minimizing the stray capacitances between the first group elements and the second group elements.” The Defendants argue the function is

¹¹A “capacitance” is commonly defined as “the property of an electric nonconductor that permits the storage of energy as a result of electric displacement when opposite surfaces of the nonconductor are maintained at a difference of potential (as in a capacitor), its measure being the ratio of the charge on either surface to the potential difference between the surfaces and its value for a capacitor being the sum of the combined values of its several dielectric plates.” Webster’s Third New International Dictionary 330 (2002).

further defined by the last portion of the claim: “by arranging said groups so that only a very small surface of the first group is opposed to the second group.”

Sedecal argues that the function is “minimizing the stray capacitances between the first group elements and the second group elements,” and that the second portion of the claim, “by arranging said groups so that only a very small surface of the first group is opposed to the second group,” is the structure that performs that function. Thus, it argues, Claim 7 is not a means-plus-function claim.

The Defendants counter that the claim does not define a structure and the claim is therefore invalid pursuant to § 112 ¶ 2, which provides: “The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.”

Since a patent is presumed to be valid, there must be clear and convincing evidence of indefiniteness for the court to find the claim invalid. Hearing Components, Inc. v. Shure, Inc., 600 F.3d 1357, 1366 (Fed. Cir. 2010). When making this determination, general principles of claim construction apply; however, the patent specification and prosecution history remain the most important evidence. Oakley, Inc. v. Sunglass Hut

Int'l, 316 F.3d 1331, 1340-41 (Fed. Cir. 2003). “When a word of degree is used the district court must determine whether the patent’s specification provides some standard for measuring that degree.” Datamize, LLC v. Plumtree Software, Inc., 417 F.3d 1342, 1351 (Fed.Cir. 2005). The Court should also consult the written description in order to “determine whether the patent’s specification supplies some standard for measuring the scope of the phrase.” Id.

The description of the preferred embodiment contains a description of how the elements may be in close contact followed by the statement:

Furthermore, as can be appreciated in FIG. 1, the surface of the elements of one group being opposed to the opposite surface of the elements of the other group, is **minimum**, such that the stray capacitances are minimized.

[Doc. 21-1 at Col.4 ll.16-19] (emphasis provided). The only other statement in the specification regarding the arrangement of the elements is the following:

Another feature of the invention resides in the fact that it has means for minimizing the stray capacitance between the elements of one group and the elements of the other. These means are determined by the arrangement presented by the various elements of one group and the other; said elements are located in such a way that the surface of the elements of one group opposed to the

surface of the elements of the other group, is **minimum.**

[Doc. 21-1 at Col. 3 ll. 6-13] (emphasis provided).

The Federal Circuit has held that “[o]nly claims not amenable to construction or insolubly ambiguous are indefinite.” Datamize, 417 F.3d at 1347. “A claim term is not indefinite just because ‘it poses a difficult issue of claim construction.’” Star Scientific, Inc. v. R.J. Reynolds Tobacco Co., 537 F.3d 1357, 1371 (Fed. Cir.), cert. denied, ___U.S. ___, 129 S.Ct. 1595, 173 L.Ed.2d 678 (2009) (internal quotation and citation omitted). Nonetheless, “if reasonable efforts at claim construction result in a definition that does not provide sufficient particularity and clarity to inform skilled artisans of the bounds of the claim, the claim is insolubly ambiguous and invalid for indefiniteness.” Id. Moreover, under claim construction principles, dependent claims are presumed to have a narrower scope than the independent claims on which they depend. Enzo Biochem, Inc. v. Applera Corp., 599 F.3d 1325, 1334 (Fed.Cir.), reh’g en banc denied, 605 F.3d 1347 (Fed.Cir.), cert. denied, ___U.S. ___, 131 S.Ct. 3020, 180 L.Ed.2d 844 (2011).

The issue here is whether the specification, which uses the word “minimum,” provides a standard for measuring the degree or scope of the

phrase “a very small surface.” Looking to that specification, it states that the elements are located in such a way that the surface of the elements of one group opposed to the surface of the other group is “minimum.” During the hearing, the Defendants conceded that if the word “minimum” is inserted into the construction of this claim, it is valid.

In light of the Defendants’ concession, the Court concludes that the claim is not so indefinite as to be incapable of construction and thus construes this claim as a means-plus-function claim, with the function defined as minimizing stray capacitances and the corresponding structure as being an arrangement of the groups of elements so that the surface of each group that is opposing the other group is minimum.

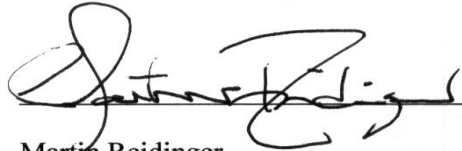
ORDER

IT IS, THEREFORE, ORDERED that the claim construction contained herein shall govern the remaining proceedings of this action.

IT IS FURTHER ORDERED that the parties shall conduct a supplemental attorneys’ conference within fourteen (14) days of the entry of this Order and submit to the Court proposed deadlines for inclusion in the Utility Patent Pretrial Order and Case Management Plan within seven (7) days thereafter.

IT IS SO ORDERED.

Signed: August 15, 2013


Martin Reidinger
United States District Judge

